

CLAIMS

1. A corrugated fin for plate-and-fin heat exchanger, of the type having a general main corrugated direction (D1), and comprising a plurality of corrugations (123) alternately linked by a corrugation peak (121) and by a corrugation valley (122), characterized in that it is formed exclusively from sintered metal particles.
2. The corrugated fin as claimed in claim 1, characterized in that the corrugation sides (123), the corrugation peaks (121) and the corrugation valleys (122) form straight segments, in cross section with respect to the main corrugation direction (D1), the peaks and valleys being parallel to each other.
3. The corrugated fin as claimed in either of claims 1 and 2, characterized in that the particles are of aluminum, of an aluminum alloy containing at least 90 mol% of aluminum, of copper, or of an alloy containing at least 90 mol% of copper.
4. The corrugated fin as claimed in any one of claims 1 to 3, characterized in that the fin has a thickness (t) of between 0.25 and 0.6 mm.
5. The corrugated fin as claimed in any one of claims 1 to 4, in which the pores formed in the fin have a diameter of between 10 and 100 μm .
6. An evaporator/condenser, of the type comprising a stack of parallel plates, closure bars and, optionally, corrugated spacers, which define a first series of passages for a fluid to be evaporated supplied at the source, and a second series of passages contiguous with the first for at least one fluid for heating said fluid to be evaporated, said passages of

the first series being divided into three successive zones, from the bottom to the top, of the evaporator/condenser:

5 - a first zone (2) configured to promote heat exchanges by convection;

 - a second zone (3) configured to promote nucleated boiling;

 - a third zone (4) configured to promote convective boiling;
10 characterized in that at least the second zone and, optionally, the third zone and even, optionally, the first zone, contains fins conforming to any one of claims 1 to 5.

15 7. The evaporator/condenser as claimed in claim 6, characterized in that it is of the bath evaporator type.

 8. An evaporator/condenser of the film evaporator
20 type, containing fins conforming to any one of claims 1 to 5.

 9. A unit for separating air by cryogenic distillation, comprising at least one
25 evaporator/condenser as claimed in one of claims 6 to 8.

 10. The air separation units as claimed in claim 9, comprising at least two columns thermally coupled
30 together via an evaporator as claimed in one of claims 6 to 8.